

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA11 | Stoke Mandeville and Aylesbury
Construction assessment (SV-003-011)
Sound, noise and vibration

November 2013

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA11 | Stoke Mandeville and Aylesbury

Construction assessment (SV-003-011)

Sound, noise and vibration

November 2013



Department
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

A report prepared for High Speed Two (HS2) Limited.

High Speed Two (HS2) Limited,
Eland House,
Bressenden Place,
London SW1E 5DU

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.



Printed in Great Britain on paper
containing at least 75% recycled fibre.

Contents

1	Introduction	1
1.2	Evaluation of impacts and effects	2
2	Scope, assumptions and limitations	3
2.1	Regional and local policy guidance	3
2.2	Engagement	3
2.3	Methodology	3
2.4	Assumptions	4
2.5	Limitations	4
3	Environmental baseline	5
3.1	Existing baseline	5
3.2	Future baseline	5
4	Effects arising during construction	6
4.1	Introduction	6
4.2	Avoidance and mitigation measures	6
4.3	Quantitative identification of impacts and effects	6
4.4	Assessment of significant effects	40
5	References	42

List of tables

Table 1: Assessment of construction induced ground-borne vibration at residential receptors	8
Table 2: Assessment of construction induced ground-borne vibration at non-residential receptors	9
Table 3: Assessment of construction noise at residential receptors	12
Table 4: Assessment of construction noise at non-residential receptors	32

1 Introduction

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).
- 1.1.2 For the Stoke Mandeville and Aylesbury community forum area (CFA 11), the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-011);
 - construction sound, noise and vibration (Volume 5: Appendix SV-003-011) (this appendix); and
 - operational sound, noise and vibration (Volume 5: Appendix SV-004-011).
- 1.1.3 The outcomes of the assessment are summarised in Volume 2: CFA Report 11, Stoke Mandeville and Aylesbury (CFA Report 11), Section 11.
- 1.1.4 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 5, Sound, Noise and Vibration Map Book.
- 1.1.5 This appendix presents the likely noise and vibration impacts, effects and significant effects arising from the construction of the Proposed Scheme for the Stoke Mandeville and Aylesbury area on:
- people, primarily where they live ('residential receptors') in terms of:
 - individual dwellings;
 - on a wider community basis, including any shared community open areas; and
 - community facilities such as schools, hospitals, places of worship, and also commercial properties such as offices and hotels, collectively described as 'non-residential receptors' and 'quiet areas'.
- 1.1.6 The assessment of likely impacts, effects and significant effects from construction noise and vibration on agricultural, community, ecological or heritage receptors and the assessment of tranquillity are presented in the following documents within Volume 5:
- Agriculture, forestry and soils Appendix AG-001-011
 - Community Appendix CM-001-011
 - Ecology Appendix EC-005-011
 - Heritage Appendix CH-003-011
 - Landscape and Visual Appendix LV-001-011

1.2 Evaluation of impacts and effects

- 1.2.1 This appendix provides a quantitative assessment of construction noise and vibration impacts/effects and a qualitative assessment of likely significant effects, based on the impacts/effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.
- 1.2.2 Indirect effects arising from temporary changes in traffic patterns on the existing road network as a consequence of constructing the Proposed Scheme are also reported in this appendix, where they will occur within the study area (as defined in Volume 5: Appendix SV-001-000).
- 1.2.3 In undertaking the assessment of sound and vibration, consistent with Environmental Impact Assessment (EIA) Regulations and emerging National Planning Practice Guidance¹ a differentiation between impacts effects, adverse effects and significant effects is made. Further information is provided in Volume 5: Appendix SV-001-000.
- 1.2.4 The assessment of impacts and effects has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The Assessment Locations employed in this assessment are presented in the Maps SV-03-021 to SV-03-024a (Volume 5, Sound, Noise and Vibration Map Book).

¹ Information is provided in the Department for Communities and Local Government's emerging National Planning Practice Guidance – Noise <http://planningguidance.planningportal.gov.uk>, (refer to the noise exposure hierarchy), as available on 14th October 2013

2 Scope, assumptions and limitations

2.1 Regional and local policy guidance

2.1.1 The policy framework for sound, noise and vibration is set out in Volume 1 and in Volume 5: Appendix SV-001-000. As part of the engagement with local authorities through the Planning Forum Sub Group - Acoustics, information regarding any specific local planning guidance in respect of noise and vibration has been requested. Whilst no information has been received for this study area via the Planning Forum Sub Group - Acoustics, the following local policy guidance on noise and vibration has been identified:

- Aylesbury Vale District Local Plan January 2004; and
- Wycombe Local Plan January 2004.

2.1.2 This guidance has been considered as part of formulating the detailed application of the impact and significance criteria set out in Volume 5: Appendix SV-001-000.

2.2 Engagement

2.2.1 Details of engagement on a route-wide basis with the local and county authorities' Environmental Health Practitioners via the Planning Forum Sub Group - Acoustics, is set out in Volume 1.

2.2.2 Engagement with communities has been via the Community Forums, as set out in Volume 1. In respect of sound, noise and vibration the following discussions have taken place:

- general discussions in respect of local issues, including possible ways to avoid and mitigate the potential impacts of noise or vibration;
- September / October 2012: a specific presentation about sound, noise and vibration with discussion afterwards with one of the project team specialists;
- November / December 2012: specific request for the Community Forum regarding baseline sound monitoring locations;
- January / February 2013: feedback to the Community Forum on any proposed baseline monitoring locations; and
- verbal / written responses to questions and sound, noise and vibration.

2.3 Methodology

2.3.1 The methodology used for the assessment of airborne sound, ground-borne sound and vibration impacts and the determination of significant effects is defined in the Scope and Methodology Report (SMR) (Volume 5: Appendix CT-001-000/1). Further clarification regarding specific areas is presented in the SMR addendum (Volume 5: Appendix CT-001-000/2). Further information is contained in Volume 5: Appendix SV-001-000.

2.4 Assumptions

- 2.4.1 Route-wide assumptions are outlined in Volume 1 and are further detailed in Volume 5: Appendix SV-001-000. Local assumptions that apply to the assessment of construction sound noise and vibration within this area are set out in Volume 2: CFA Report 11.

2.5 Limitations

- 2.5.1 The route-wide limitations and the approach adopted to assure that they will not impact the robust assessment of sound, noise and vibration are presented in Volume 5: Appendix SV-001-000. No specific additional limitations are identified for this study area.

3 Environmental baseline

3.1 Existing baseline

- 3.1.1 Baseline sound level data has been collected at locations representative of the airborne sound-sensitive receptors. The existing and future baseline airborne sound levels derived from these measurements are given in Volume 5: Appendix SV-002-011. Details of the baseline data collection and the methodology are given in Volume 5: Appendix SV-001-000 and specifically for this study area in Volume 5: Appendix SV-002-011.

3.2 Future baseline

- 3.2.1 The assessment of noise from construction activities assumes a baseline year of 2017 which represents the period immediately prior to the start of the construction period. As a reasonable worst case, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017. The assessment of noise from construction traffic assumes a baseline year of 2021, representative of the middle of the construction period when the construction traffic flows are expected to be at their peak. Further information can be found in the Traffic and Transport assessment (Volume 5: Appendix TR-001-000).

4 Effects arising during construction

4.1 Introduction

4.1.1 The assessment is reported first for ground-borne sound and vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts and effects are presented. This is followed by the identification of significant effects and the evidence used to support these conclusions.

4.1.2 The structure of this assessment report is as follows:

- Avoidance and mitigation measures
- Quantitative identification of impact and effects
 - Ground-borne sound and vibration
 - residential
 - non-residential
 - Airborne sound
 - residential
 - non-residential
- Assessment of impacts and effects
 - residential receptors: direct effects – dwellings
 - residential receptors: direct effects – communities
 - residential receptors: indirect effects
 - non-residential receptors: direct effects
 - non-residential receptors: indirect effects
 - cumulative effects from the Proposed Scheme and other committed development

4.2 Avoidance and mitigation measures


4.2.1 These measures are set out in Volume 2: CFA Report 11.

4.3 Quantitative identification of impacts and effects

Ground-borne vibration

4.3.1 Assessment locations defined for the quantitative assessment of impacts are shown on Maps SV 03 021 to SV-03-024a (Volume 5, Sound, Noise and Vibration Map Book).

- 4.3.2 For each assessment location, the assessment results for residential and non-residential receptors are presented in Table 1 and Table 2. Explanation of the information in Table 1 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

 Where the significant effect column is highlighted in pink, then a significant effect is identified at the referenced community, or individual receptor.

- * Significant effect – the quantitative impact methodology has identified either:
 - 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or
 - 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect.
- ~ Significant effect – impacted dwellings which are either spatially remote from larger defined residential areas, or a small number of dwellings whose impact is not considered to represent the larger defined residential area, and as such are not considered to be part of a community significant effect.
- A Type of effect – annoyance
- D Type of effect – disturbance
- Sd Type of effect – sleep disturbance
- Q Type of effect – deterioration of acoustic quality
- R Type of receptor – residential
- V₁ Type of receptor:
 - (V₁) vibration sensitive research and manufacturing, hospital, and university equipment;
 - (V₂) hotels, hospital wards and education dormitories;
 - (V₃) offices, schools and places of worship; or
 - (V₄) workshops.
- T Receptor design – typical
- S Receptor design – special

Table 1: Assessment of construction induced ground-borne vibration at residential receptors


Assessment location		Impact criteria			Significance criteria										Significant effect
ID	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels and its duration (months)	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [m]	Mitigation effect	
320799	Oxford Road, Hartwell	0.22	Day (0700-2300)	Night (2300-0700)	Aylesbury north cutting – rail track formation / sub-ballast - medium roller	NA	1	R	T		-	-	0.25	-	-
314965	Old Risborough Road, Stoke Mandeville	0.13	0.07/0.07	-	Stoke Mandeville south embankment - filling - medium roller	NA	7	R	T		-	-	0.75	-	-
700333	Old Risborough Road, Stoke Mandeville	0.88	0.34/0.34	-	Stoke Mandeville south embankment - filling - medium roller	A	2	R	T		-	-	0.75	-	-
700334	Whitethorn Close, Stoke Mandeville	0.42	0.19/0.19	-	Stoke Mandeville south embankment - filling - medium roller	NA	4	R	T		-	-	0.75	-	-

Table 2: Assessment of construction induced ground-borne vibration at non-residential receptors

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels and its duration (months)	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [m]	Mitigation effect		
			Day (0700-2300)	Night (2300-0700)												
314965	Old Risborough Road, Stoke Mandeville	0.13	0.07/0.07	-	Stoke Mandeville south embankment - filling - medium roller	B	3	V ₃	T	0	-	-	0.75	-	-	
700333	Old Risborough Road, Stoke Mandeville	0.88	0.34/0.34	-	Stoke Mandeville South embankment - filling - medium roller	B	1	V ₃	T	0	-	-	0.75	-	-	

Airborne sound: direct impacts and effects

- 4.3.3 Activities associated with the construction phases of the Proposed Scheme will generate airborne noise. The assessment of the likely impacts and significant effects as a result of the construction noise has considered the effects on:
- residential receptors, both as individual dwellings and communities; and
 - non-residential receptors, including quiet areas.
- 4.3.4 For each type of receptor, subject to the screening distances identified, and based upon supplied plant information from engineers, the typical and highest monthly $L_{pAeq,T}$ noise levels from construction activities have been calculated at the façade of all assessment locations, which are representative of a number of receptors in the study area.
- 4.3.5 The assessment results, impact criteria and significance criteria for the assessment of the scheme at residential and non-residential receptors are presented in Table 3 and Table 4 respectively.
- 4.3.6 The construction activity resulting in highest forecast noise levels is reported in Table 3 and Table 4 for each assessment location and time period, where the highest forecast noise level from any individual construction activity is above $L_{pAeq,T}$ 40dB during the daytime and evening periods and $L_{pAeq,T}$ 35dB during the night-time. Where the highest forecast noise level from any individual construction activity is less than $L_{pAeq,T}$ 40dB during the daytime and evening or $L_{pAeq,T}$ 35dB during the night-time no activities have been reported.
- 4.3.7 Explanation of the information within Table 3 and Table 4 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

 Where the significant effect column is highlighted in pink, then a significant effect is identified at the referenced community, or individual non-residential receptor

* Significant effect – the quantitative impact methodology has identified either:

- 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or
- 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect.

~ Significant effect - impacted dwellings which are either spatially remote from larger defined residential areas, or a small number of dwellings whose impact is not considered to represent the larger defined residential area, and as such are not considered to be part of a community significant effect.

A Type of effect – annoyance

D Type of effect – disturbance

Sd Type of effect – sleep disturbance

Q Type of effect – deterioration of acoustic quality

R	Type of receptor - residential
G	Type of receptor: (G1) theatres, large auditoria and concert halls; (G2) sound recording and broadcast studios; (G3) places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls; (G4) schools, colleges, hospitals, hotels and libraries; or (G5) offices and general commercial premises.
T	Receptor design – typical
S	Receptor design - special
H	Existing environment – high existing ambient noise levels: daytime level more than 75dB, evening-time level more than 65dB or night-time level more than 55dB L_{pAeq} at the façade.
NI	Mitigation effect - identified as likely to qualify for noise insulation under the draft Construction Code of Practice (draft CoCP).
D,E,N	Impact duration (months) – duration of impact during the day (D), evening (E) or night (N).

Table 3: Assessment of construction noise at residential receptors

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
298707	Cooks Road, Aylesbury	42/55 [A]	-	-	Day: haul route movements - on site	NA	78	R	T	-	-	-	-	-		
298735	Hickman Street, Aylesbury	<40/47 [A]	-	-	Day: haul route movements - on site	NA	85	R	T	-	-	-	-	-		
298817	Cooks Road, Aylesbury	45/55 [A]	-	-	Day: haul route movements - on site	NA	78	R	T	-	-	-	-	-		
298976	Eyre Close, Aylesbury	43/54 [A]	-	-	Day: haul route movements - on site	NA	59	R	T	-	-	-	-	-		
299219	Brimmers Way, Aylesbury	<40/48 [A]	-	-	Day: haul route movements - on site	NA	121	R	T	-	-	-	-	-		
299591	Brimmers Way, Aylesbury	<40/49 [A]	-	-	Day: haul route movements - on site	NA	75	R	T	-	-	-	-	-		
299978	Great Meadow Way, Aylesbury	<40/49 [A]	-	-	Day: haul route movements - on site	NA	65	R	T	-	-	-	-	-		
300635	Napier Road, Aylesbury	45/55 [A]	-	-	Day: haul route movements - on site	NA	61	R	T	-	-	-	-	-		
300647	Warbler Close, Aylesbury	45/55 [A]	-	-	Day: haul route movements - on site	NA	69	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
300773	Wren Path, Aylesbury	<40/48 [A]	-	-	Day: haul route movements - on site	NA	32	R	T	-	-	-	-	-		
300929	Spruce Road, Aylesbury	<40/47 [A]	-	-	Day: haul route movements - on site	NA	43	R	T	-	-	-	-	-		
301228	Grosvenor Way, Aylesbury	47/56 [A]	-	-	Day: haul route movements - on site	NA	68	R	T	-	-	-	-	-		
301296	Arncott Way, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	36	R	T	-	-	-	-	-		
301483	Chelsea Road, Aylesbury	45/53 [A]	-	-	Day: haul route movements - on site	NA	14	R	T	-	-	-	-	-		
301668	Chelsea Road, Aylesbury	43/50 [A]	-	-	Day: haul route movements - on site	NA	21	R	T	-	-	-	-	-		
301851	Hampstead Close, Aylesbury	42/49 [A]	-	-	Day: haul route movements - on site	NA	35	R	T	-	-	-	-	-		
302545	Upper Winchendon, Aylesbury	41/50 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
303147	Cottage Grounds, Stone	<40/48 [A]	-	-	Day: haul route movements - on site	NA	25	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
304833	Sedrup, Hartwell	45/51 [A]	-	-	Day: haul route movements - to and from road	NA	4	R	T	-	-	-	-	-		
304876	Portway Road, Stone	<40/45 [A]	-	-	Day: haul route movements - on site	NA	3	R	T	-	-	-	-	-		
304968	Sedrup, Hartwell	<40/46 [A]	-	-	Day: haul route movements - to and from road	NA	1	R	T	-	-	-	-	-		
305139	Meadoway, Hartwell	44/49 [A]	-	-	Day: haul route movements - to and from road	NA	24	R	T	-	-	-	-	-		
305201	Mayflower Close, Hartwell	53/60 [B]	-	-	Day: haul route movements - to and from road	NA	15	R	T	H	-	-	-	-		
305474	Upper Hartwell, Stone	<40/46 [A]	-	-	Day: haul route movements - on site	NA	44	R	T	-	-	-	-	-		
305678	Unnamed Road, Stone With Bishopstone And Hartwell	40/50 [A]	-	-	Day: haul route movements - on site	NA	6	R	T	-	-	-	-	-		
305692	Upper Hartwell, Stone	40/50 [A]	-	-	Day: haul route movements - on site	NA	19	R	T	-	-	-	-	-		
305767	Lower Hartwell, Aylesbury	43/54 [A]	-	-	Day: haul route movements - on site	NA	8	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
305827	Lower Hartwell, Aylesbury	41/51 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
305896	Oxford Road, Stone	43/47 [>C]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
305909	Lower Hartwell, Aylesbury	43/48 [B]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-		
305983	Unnamed Road, Stone With Bishopstone And Hartwell	42/50 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
306075	Oxford Road, Hartwell	45/53 [>C]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-		
306197	Swallow Lane, Aylesbury	<40/50 [A]	-	-	Day: haul route movements - on site	NA	24	R	T	-	-	-	-	-		
306223	Lower Hartwell, Aylesbury	43/55 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
307325	Meredith Drive, Aylesbury	<40/47 [A]	-	-	Day: haul route movements - on site	NA	48	R	T	-	-	-	-	-		
308644	Gogh Road, Aylesbury	41/48 [A]	-	-	Day: haul route movements - on site	NA	40	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
308665	Picasso Place, Aylesbury	41/48 [A]	-	-	Day: haul route movements - on site	NA	40	R	T	-	-	-	-	-		
309021	Telford Close, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
309118	Tompion Road, Aylesbury	44/51 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
309275	Edison Road, Rabans Lane Industrial Area	45/52 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
309296	Rabans Lane, Aylesbury	47/56 [A]	-	-	Day: haul route movements - on site	NA	4	R	T	-	-	-	-	-		
309320	Edison Road, Rabans Lane Industrial Area	42/49 [A]	-	-	Day: haul route movements - on site	NA	17	R	T	-	-	-	-	-		
309415	Bessemer Crescent, Rabans Lane Industrial Area	46/54 [A]	-	-	Day: haul route movements - on site	NA	22	R	T	-	-	-	-	-		
309474	Rabans Lane, Aylesbury	46/54 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
310199	Oxpen, Aylesbury	41/51 [C]	-	-	Day: haul route movements - on site	NA	71	R	T	H	-	-	-	-		
310538	Fleet Marston, Aylesbury	42/52 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
310564	Fleet Marston, Aylesbury	41/52 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
310612	Fleet Marston, Aylesbury	<40/51 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-		
310839	Fleet Marston, Aylesbury	43/54 [C]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
310891	Hunters Farm Industrial Estate, Fleet Marston	42/53 [C]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-		
310944	Fleet Marston, Aylesbury	49/54 [C]	-	-	Day: haul route movements - on site	NA	3	R	T	H	-	-	-	-		
311007	Putlowes Drive, Fleet Marston	53/60 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
311114	Fleet Marston, Aylesbury	45/56 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
311158	Putlowes Drive, Fleet Marston	45/54 [A]	-	-	Day: haul route movements - on site	NA	6	R	T	-	-	-	-	-		
311184	Quarrendon, Aylesbury	41/51 [A]	-	-	Day: haul route movements - on site	NA	3	R	T	-	-	-	-	-		
311929	Oxpen, Aylesbury	43/52 [C]	-	-	Day: haul route movements - on site	NA	4	R	T	H	-	-	-	-		
312462	Risborough Road, Stoke Mandeville	50/58 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-		
312566	Unnamed Road, Stone With Bishopstone And Hartwell	46/50 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
312872	Bishopstone, Aylesbury	43/46 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
313421	Risborough Road, Stoke Mandeville	46/49 [A]	-	-	Day: Stoke Mandeville overbridge and bypass - new southern embankment, link to marsh lane and tie in to A4011	NA	2	R	T	-	-	-	-	-		
313673	Risborough Road, Stoke Mandeville	52/58 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
313799	Risborough Road, Stoke Mandeville	50/58 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
313866	Risborough Road, Stoke Mandeville	50/58 [B]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
314965	Old Risborough Road, Stoke Mandeville	55/61 [A]	-	-	Day: Risborough Road subway - finishes	NA	7	R	T	-	-	-	-	-		
316101	Hampden Square, Aylesbury	<40/48 [A]	-	-	Day: haul route movements - on site	NA	189	R	T	-	-	-	-	-		
317201	Church Court, Stoke Mandeville	43/49 [A]	-	-	Day: haul route movements - on site	NA	24	R	T	-	-	-	-	-		
317279	Stoke Leys Close, Aylesbury	46/51 [A]	-	-	Day: haul route movements - to and from road	NA	24	R	T	-	-	-	-	-		
319163	Sedrup, Hartwell	45/52 [A]	-	-	Day: haul route movements - to and from road	NA	5	R	T	-	-	-	-	-		
319187	Sedrup, Hartwell	48/54 [A]	-	-	Day: haul route movements - to and from road	NA	1	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
319293	Pearson Close, Aylesbury	45/52 [A]	-	-	Day: haul route movements - on site	NA	35	R	T	-	-	-	-	-		
319325	Alham Road, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	93	R	T	-	-	-	-	-		
319422	Dormer Close, Aylesbury	45/52 [A]	-	-	Day: haul route movements - on site	NA	118	R	T	-	-	-	-	-		
319615	Bonham Close, Aylesbury	45/52 [A]	-	-	Day: haul route movements - on site	NA	178	R	T	-	-	-	-	-		
320227	Briskman Way, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	28	R	T	-	-	-	-	-		
320409	Oxford Road, Hartwell	52/59 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-		
320715	Lupin Walk, Aylesbury	47/53 [A]	-	-	Day: haul route movements - on site	NA	127	R	T	-	-	-	-	-		
320799	Oxford Road, Hartwell	47/57 [A]	-	-	Day: A418 Oxford Road overbridge - finishes	NA	1	R	T	-	-	-	-	-		
320819	Oxford Road, Hartwell	53/60 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-		
324002	Slattenham	<40/44	-	-	Day: haul route movements - on site	NA	207	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Close, Aylesbury	[A]													
324129	Rowland Way, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	112	R	T	-	-	-	-	-	
325151	Upper Abbots Hill, Aylesbury	44/51 [A]	-	-	Day: haul route movements - on site	NA	118	R	T	-	-	-	-	-	
325211	Great Meadow Way, Aylesbury	<40/47 [A]	-	-	Day: haul route movements - on site	NA	72	R	T	-	-	-	-	-	
325431	Horton Close, Aylesbury	<40/48 [A]	-	-	Day: haul route movements - on site	NA	130	R	T	-	-	-	-	-	
325816	Pitcher Walk, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	343	R	T	-	-	-	-	-	
327420	Bishopstone, Aylesbury	41/46 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-	
327675	Torridge Road, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	176	R	T	-	-	-	-	-	
328417	Ellen Road, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-	
328584	Brent Path, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	41	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
328805	Lowmon Way, Aylesbury	40/47 [A]	-	-	Day: haul route movements - on site	NA	53	R	T	-	-	-	-	-		
329008	Orwell Close, Aylesbury	<40/46 [A]	-	-	Day: haul route movements - on site	NA	84	R	T	-	-	-	-	-		
329139	Enborne Close, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	64	R	T	-	-	-	-	-		
329253	Welland Road, Aylesbury	46/53 [A]	-	-	Day: haul route movements - on site	NA	30	R	T	-	-	-	-	-		
329413	Blackwater Drive, Aylesbury	41/48 [A]	-	-	Day: haul route movements - on site	NA	61	R	T	-	-	-	-	-		
329685	Witham Way, Aylesbury	48/55 [A]	-	-	Day: haul route movements - on site	NA	57	R	T	-	-	-	-	-		
329807	Witham Way, Aylesbury	44/50 [A]	-	-	Day: haul route movements - on site	NA	44	R	T	-	-	-	-	-		
330063	Alwin Close, Aylesbury	41/47 [A]	-	-	Day: haul route movements - on site	NA	84	R	T	-	-	-	-	-		
330343	Ebble Close, Aylesbury	<40/44 [A]	-	-	Day: haul route movements - on site	NA	78	R	T	-	-	-	-	-		
330464	Anton Way,	43/50	-	-	Day: haul route movements - on site	NA	13	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Aylesbury	[A]													
330552	Stour Close, Aylesbury	49/56 [A]	-	-	Day: haul route movements - on site	NA	49	R	T	-	-	-	-	-	
330593	Parslow Close, Aylesbury	49/55 [A]	-	-	Day: haul route movements - on site	NA	78	R	T	-	-	-	-	-	
330723	Anton Way, Aylesbury	43/49 [A]	-	-	Day: haul route movements - on site	NA	56	R	T	-	-	-	-	-	
330937	Garron Close, Aylesbury	41/47 [A]	-	-	Day: haul route movements - on site	NA	71	R	T	-	-	-	-	-	
331111	Isis Close, Aylesbury	50/57 [A]	-	-	Day: haul route movements - on site	NA	51	R	T	-	-	-	-	-	
331451	Bowmont Drive, Aylesbury	41/47 [A]	-	-	Day: haul route movements - on site	NA	63	R	T	-	-	-	-	-	
331680	Anton Way, Aylesbury	45/52 [A]	-	-	Day: haul route movements - on site	NA	103	R	T	-	-	-	-	-	
331963	Hillier Road, Aylesbury	43/49 [A]	-	-	Day: haul route movements - on site	NA	99	R	T	-	-	-	-	-	
332206	Anton Way, Aylesbury	48/55 [A]	-	-	Day: haul route movements - on site	NA	33	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
332217	Harbourne Close, Aylesbury	48/56 [A]	-	-	Day: haul route movements - on site	NA	31	R	T	-	-	-	-	-		
332328	Deverill Road, Aylesbury	48/55 [A]	-	-	Day: haul route movements - on site	NA	28	R	T	-	-	-	-	-		
332389	Oat Close, Aylesbury	51/59 [A]	-	-	Day: haul route movements - on site	NA	41	R	T	-	-	-	-	-		
332435	Anton Way, Aylesbury	44/50 [A]	-	-	Day: haul route movements - on site	NA	64	R	T	-	-	-	-	-		
334627	Hamble Drive, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	146	R	T	-	-	-	-	-		
335983	Grenville Road, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	42	R	T	-	-	-	-	-		
336058	Grenville Road, Aylesbury	<40/44 [A]	-	-	Day: haul route movements - on site	NA	125	R	T	-	-	-	-	-		
336324	Cornbrook Road, Aylesbury	44/52 [A]	-	-	Day: haul route movements - on site	NA	124	R	T	-	-	-	-	-		
336610	Plym Close, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	108	R	T	-	-	-	-	-		
337269	Hannon Road,	40/46	-	-	Day: haul route movements - on site	NA	65	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
	Aylesbury	[A]														
337422	Nene Close, Aylesbury	48/55 [A]	-	-	Day: haul route movements - on site	NA	27	R	T	-	-	-	-	-		
337442	Frome Close, Aylesbury	48/54 [A]	-	-	Day: haul route movements - on site	NA	45	R	T	-	-	-	-	-		
337702	Tees Road, Aylesbury	41/47 [A]	-	-	Day: haul route movements - on site	NA	44	R	T	-	-	-	-	-		
337871	Nursery Close, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	21	R	T	-	-	-	-	-		
338807	Marsh Lane, Stoke Mandeville	51/60 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-		
338869	Marsh Lane, Stoke Mandeville	48/54 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	H	-	-	-	-		
338898	Lower Road, Stoke Mandeville	45/52 [A]	-	-	Day: haul route movements - on site	NA	14	R	T	-	-	-	-	-		
338936	Lower Road, Stoke	45/51 [A]	-	-	Day: haul route movements - on site	NA	2	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Mandeville														
339059	Lower Road, Stoke Mandeville	51/55 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	H	-	-	-	-	
340267	Hughenden Green, Aylesbury	<40/43 [A]	-	-	Day: haul route movements - on site	NA	49	R	T	-	-	-	-	-	
340847	Bowler Road, Aylesbury	<40/44 [A]	-	-	Day: haul route movements - on site	NA	77	R	T	-	-	-	-	-	
341103	Lower Road, Aylesbury	42/55 [A]	-	-	Day: Stoke Mandeville overbridge and bypass - site clearance	NA	1	R	T	-	-	-	-	-	
341163	Lower Road, Stoke Mandeville	46/51 [A]	-	-	Day: haul route movements - on site	NA	13	R	T	-	-	-	-	-	
341245	Mentmore Green, Aylesbury	41/47 [A]	-	-	Day: Princes Risborough to Aylesbury rail overbridge - site preparation works (Network Rail)	NA	17	R	T	-	-	-	-	-	
341560	Kynaston Avenue, Aylesbury	40/44 [A]	-	-	Day: haul route movements - on site	NA	108	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
341860	Westfield, Aylesbury	52/61 [A]	-	-	Day: Princes Risborough to Aylesbury rail overbridge - site preparation works (Network Rail)	NA	55	R	T	-	-	-	-	-		
341948	Rake Way, Aylesbury	40/45 [A]	-	-	Day: haul route movements - on site	NA	127	R	T	-	-	-	-	-		
343499	Risborough Road, Stoke Mandeville	48/55 [A]	-	-	Day: haul route movements - on site	NA	9	R	T	-	-	-	-	-		
343533	Risborough Road, Stoke Mandeville	43/51 [A]	-	-	Day: haul route movements - on site	NA	9	R	T	-	-	-	-	-		
343650	Yew Tree Close, Stoke Mandeville	44/51 [A]	-	-	Day: haul route movements - on site	NA	8	R	T	-	-	-	-	-		
343762	Chestnut Way, Stoke Mandeville	48/55 [A]	-	-	Day: haul route movements - on site	NA	17	R	T	-	-	-	-	-		
343823	Risborough Road, Stoke Mandeville	43/49 [B]	-	-	Day: haul route movements - on site	NA	7	R	T	H	-	-	-	-		
343866	Risborough Road, Stoke	43/50	-	-	Day: haul route movements - on site	NA	6	R	T	H	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Mandeville	[C]													
343943	Risborough Road, Stoke Mandeville	42/48 [C]	-	-	Day: haul route movements - on site	NA	22	R	T	H	-	-	-	-	
343993	Chalgrove End, Stoke Mandeville	<40/45 [A]	-	-	Day: haul route movements - on site	NA	37	R	T	-	-	-	-	-	
344316	Hampden Road, Stoke Mandeville	42/49 [A]	-	-	Day: haul route movements - on site	NA	67	R	T	-	-	-	-	-	
344788	Station Road, Stoke Mandeville	41/46 [A]	-	-	Day: haul route movements - on site	NA	16	R	T	-	-	-	-	-	
344841	Eskdale Road, Stoke Mandeville	41/46 [A]	-	-	Day: haul route movements - on site	NA	19	R	T	-	-	-	-	-	
345007	Eskdale Road, Stoke Mandeville	42/48 [A]	-	-	Day: haul route movements - on site	NA	14	R	T	-	-	-	-	-	
345164	Irvine Drive, Stoke	42/49 [A]	-	-	Day: haul route movements - on site	NA	18	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Mandeville														
345301	Risborough Road, Stoke Mandeville	42/48 [B]	-	-	Day: haul route movements - on site	NA	33	R	T	H	-	-	-	-	
345404	Lower Road, Stoke Mandeville	47/54 [A]	-	-	Day: haul route movements - on site	NA	17	R	T	-	-	-	-	-	
345481	Lower Road, Stoke Mandeville	43/49 [B]	-	-	Day: haul route movements - on site	NA	15	R	T	H	-	-	-	-	
345557	Lower Road, Stoke Mandeville	44/52 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-	
345593	Marsh Lane, Stoke Mandeville	47/55 [A]	-	-	Day: haul route movements - on site	NA	1	R	T	-	-	-	-	-	
345617	Hampden Road, Stoke Mandeville	42/49 [A]	-	-	Day: haul route movements - on site	NA	35	R	T	-	-	-	-	-	
345752	Chapel Lane, Stoke	48/56 [A]	-	-	Day: haul route movements - on site	NA	18	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
	Mandeville															
345824	Lower Road, Stoke Mandeville	46/53 [A]	-	-	Day: haul route movements - on site	NA	6	R	T	-	-	-	-	-		
348206	Keen Close, Aylesbury	<40/47 [A]	-	-	Day: haul route movements - on site	NA	75	R	T	-	-	-	-	-		
348419	Prestwold Way, Aylesbury	44/54 [A]	-	-	Day: haul route movements - on site	NA	113	R	T	-	-	-	-	-		
348501	Andrews Way, Aylesbury	43/53 [A]	-	-	Day: haul route movements - on site	NA	18	R	T	-	-	-	-	-		
348799	Jakeman Way, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	36	R	T	-	-	-	-	-		
348914	Briskman Way, Aylesbury	<40/44 [A]	-	-	Day: haul route movements - on site	NA	88	R	T	-	-	-	-	-		
349825	Briskman Way, Aylesbury	<40/45 [A]	-	-	Day: haul route movements - on site	NA	58	R	T	-	-	-	-	-		
358148	Wendover Road, Weston Turville	<40/49 [A]	-	-	Day: Wendover north cutting - cutting - excavation	NA	18	R	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
358721	Aylesbury Road, Wendover	45/50 [>>C]	-	-	Day: Wendover Green Tunnel: phase 2b sections C and D - construction works - substructure - cutting - excavation	NA	6	R	T	H	-	-	-	-	
700333	Old Risborough Road, Stoke Mandeville	55/67 [A]	-	-	Day: haul route movements - on site	A	2	R	T	-	-	Y	D 4	-	~
700334	Whitethorn Close, Stoke Mandeville	51/62 [A]	-	-	Day: haul route movements - on site	NA	4	R	T	-	-	-	-	-	

Table 4: Assessment of construction noise at non-residential receptors

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
298735	Hickman Street, Aylesbury	<40/47	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	
299219	Brimmers Way, Aylesbury	<40/48	-	-	Day: haul route movements - on site	B	2	G5	T	-	-	-	-	-	
305037	Portway Road, Stone	<40/43	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	
305139	Meadoway, Hartwell	44/49	-	-	Day: haul route movements - to and from road	B	1	G5	T	-	-	-	-	-	
305474	Upper Hartwell, Stone	<40/46	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	
305983	Unnamed Road, Stone With Bishopstone And Hartwell	42/50	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-	
306049	Oxford Road, Lower Hartwell	43/51	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	
306055	Oxford Road, Hartwell	42/47	-	-	Day: haul route movements - on site	B	1	G4	T	H	-	-	-	-	
308722	Rabans Close,	40/49	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Aylesbury														
309021	Telford Close, Aylesbury	<40/46	-	-	Day: haul route movements - on site	B	41	G5	T	-	-	-	-	-	
309118	Tompion Road, Aylesbury	44/51	-	-	Day: haul route movements - on site	B	21	G5	T	-	-	-	-	-	
309275	Edison Road, Rabans Lane Industrial Area	45/52	-	-	Day: haul route movements - on site	B	10	G5	T	-	-	-	-	-	
309296	Rabans Lane, Aylesbury	47/56	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	
309320	Edison Road, Rabans Lane Industrial Area	42/49	-	-	Day: haul route movements - on site	B	34	G5	T	-	-	-	-	-	
309415	Bessemer Crescent, Rabans Lane Industrial Area	46/54	-	-	Day: haul route movements - on site	B	32	G5	T	-	-	-	-	-	
309474	Rabans Lane, Aylesbury	46/54	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	
310817	Unnamed Road,	43/53	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Fleet Marston														
310891	Hunters Farm Industrial Estate, Fleet Marston	42/53	-	-	Day: haul route movements - on site	B	20	G5	T	H	-	-	-	-	
312566	Unnamed Road, Stone With Bishopstone And Hartwell	46/50	-	-	Day: haul route movements - on site	B	1	G5	T	H	-	-	-	-	
314803	Quilters Way, Stoke Mandeville	44/53	-	-	Day: haul route movements - on site	B	19	G5	T	-	-	-	-	-	
314965	Old Risborough Road, Stoke Mandeville	55/61	-	-	Day: Risborough Road subway - finishes	B	3	G5	T	-	-	-	-	-	
316101	Hampden Square, Aylesbury	<40/48	-	-	Day: haul route movements - on site	B	2	G3	T	-	-	-	-	-	
316101	Hampden Square, Aylesbury	<40/48	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
316101	Hampden Square, Aylesbury	<40/48	-	-	Day: haul route movements - on site	B	20	G5	T	-	-	-	-	-		
317201	Church Court, Stoke Mandeville	43/49	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
317279	Stoke Leys Close, Aylesbury	46/51	-	-	Day: haul route movements - to and from road	B	1	G3	T	-	-	-	-	-		
317279	Stoke Leys Close, Aylesbury	46/51	-	-	Day: haul route movements - to and from road	B	1	G4	T	-	-	-	-	-		
317279	Stoke Leys Close, Aylesbury	46/51	-	-	Day: haul route movements - to and from road	B	1	G5	T	-	-	-	-	-		
319187	Sedrup, Hartwell	48/54	-	-	Day: haul route movements - to and from road	B	1	G5	T	-	-	-	-	-		
319305	Thame Road South, Aylesbury	40/47	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-		
319305	Thame Road South, Aylesbury	40/47	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
320715	Lupin Walk, Aylesbury	47/53	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
325816	Pitcher Walk, Aylesbury	<40/46	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-		
325816	Pitcher Walk, Aylesbury	<40/46	-	-	Day: haul route movements - on site	B	2	G5	T	-	-	-	-	-		
328417	Ellen Road, Aylesbury	<40/45	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-		
328417	Ellen Road, Aylesbury	<40/45	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
330063	Alwin Close, Aylesbury	41/47	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-		
330723	Anton Way, Aylesbury	43/49	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
330937	Garron Close, Aylesbury	41/47	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
336610	Plym Close, Aylesbury	<40/45	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
337269	Hannon Road,	40/46	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria										Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect		
		Day 0700-1900	Evening 1900-2300	Night 2300-0700												
	Aylesbury															
337269	Hannon Road, Aylesbury	40/46	-	-	Day: haul route movements - on site	B	2	G4	T	-	-	-	-	-		
337269	Hannon Road, Aylesbury	40/46	-	-	Day: haul route movements - on site	B	8	G5	T	-	-	-	-	-		
337702	Tees Road, Aylesbury	41/47	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-		
341163	Lower Road, Stoke Mandeville	46/51	-	-	Day: haul route movements - on site	B	3	G5	T	-	-	-	-	-		
341560	Kynaston Avenue, Aylesbury	40/44	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
343650	Yew Tree Close, Stoke Mandeville	44/51	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		
343943	Risborough Road, Stoke Mandeville	42/48	-	-	Day: haul route movements - on site	B	1	G5	T	H	-	-	-	-		
344788	Station Road, Stoke	41/46	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-		

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Mandeville														
345007	Eskdale Road, Stoke Mandeville	42/48	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-	
345164	Irvine Drive, Stoke Mandeville	42/49	-	-	Day: haul route movements - on site	B	1	G3	T	-	-	-	-	-	
345301	Risborough Road, Stoke Mandeville	42/48	-	-	Day: haul route movements - on site	B	1	G5	T	H	-	-	-	-	
345404	Lower Road, Stoke Mandeville	47/54	-	-	Day: haul route movements - on site	B	10	G5	T	-	-	-	-	-	
345540	Swallow Lane, Stoke Mandeville	42/48	-	-	Day: haul route movements - on site	B	1	G3	T	H	-	-	-	-	
345557	Lower Road, Stoke Mandeville	44/52	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	
345824	Lower Road, Stoke	46/53	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the façade			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Mandeville														
348206	Keen Close, Aylesbury	<40/47	-	-	Day: haul route movements - on site	B	1	G4	T	-	-	-	-	-	
348914	Briskman Way, Aylesbury	<40/44	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	
358721	Aylesbury Road, Wendover	45/50	-	-	Day: Wendover Green Tunnel: phase 2b sections C and D - construction works - substructure - cutting - excavation	B	1	G4	T	H	-	-	-	-	
358721	Aylesbury Road, Wendover	45/50	-	-	Day: Wendover Green Tunnel: phase 2b sections C and D - construction works - substructure - cutting - excavation	B	1	G5	T	H	-	-	-	-	
700333	Old Risborough Road, Stoke Mandeville	55/67	-	-	Day: haul route movements - on site	B	1	G5	T	-	-	-	-	-	
700339	Unnamed Road, Stone With Bishopstone And Hartwell	46/51	-	-	Day: haul route movements - on site	B	1	G5	T	H	-	-	-	-	

Airborne sound: indirect effects

- 4.3.8 No impacts have been predicted in this area as the result of construction road traffic associated with the construction phases of the Proposed Scheme.

4.4 Assessment of significant effects

Residential receptors: direct effects – individual dwellings

- 4.4.1 Taking account of the avoidance and mitigation measures set out in the previous paragraphs, no residential buildings are forecast to experience noise levels higher than the noise insulation trigger levels as defined in the draft CoCP. For daytime construction the trigger level is an equivalent continuous noise level of 75dB².
- 4.4.2 The mitigation measures, including noise insulation, will reduce noise inside all dwellings such that it does not reach a level where it would significantly affect¹ residents.

Residential receptors: direct effects -communities

- 4.4.3 The avoidance and mitigation measures in this area will avoid airborne construction noise adverse effects⁷ on the majority of receptors and communities. Residual temporary noise or vibration effects are identified later in this section.
- 4.4.4 With regard to noise outside dwellings, the assessment of temporary effects takes account of construction noise relative to existing sound levels.
- 4.4.5 In locations with lower existing sound levels, construction noise effects¹ are likely to be caused by changes to noise levels outside dwellings. These may be considered by the local community as an effect on the acoustic character of the area and hence be perceived as a change in the quality of life. These effects are considered to be significant when assessed on a community basis taking account of the local context³.
- 4.4.6 In this area, the mitigation measures reduce the effects of outdoor construction noise on the acoustic character around the local residential communities such that the effects are considered to be not significant.
- 4.4.7 Detailed information regarding landscape earthworks was not available at the time of the quantitative assessment. Therefore a screening assessment of the noise arising from these works on residential receptors has been undertaken by determining the minimum distance from the works site boundary at which the onset of a construction noise impact would be expected. In accordance with the draft CoCP these effects will be subject to review as part of the Section 61⁴ application process for the construction works. The screening assessment used represents a worst case scenario. The assessment has resulted in identification of no likely significant effects on residential receptors.

² L_{pAeq,0800-1800} measured outdoors at the building façade.

³ Further information is provided in SV-001-000.

⁴ Section 61 Agreement under the Control of Pollution Act, 1974 (c.40). London, Her Majesty's Stationery Office.

Residential receptors: indirect effects

- 4.4.8 Significant noise effects on residential receptors arising from construction traffic are unlikely to occur in this area.

Non-residential receptors: direct effects

- 4.4.9 Significant construction noise or vibration effects on non-residential receptors are unlikely to occur in this area.

Non-residential receptors: indirect effects

- 4.4.10 Significant noise effects on non-residential receptors arising from construction traffic are unlikely to occur in this area.

Cumulative effects from the Proposed Scheme and other committed development

- 4.4.11 This assessment has considered the potential cumulative construction noise effects of the Proposed Scheme and other committed developments⁵. In this area, construction noise or vibration from the Proposed Scheme is unlikely to result in any significant cumulative noise effects.

⁵ Refer to Volume 5: Appendix CT-004-000.

5 References

Control of Pollution Act 1974 (c.40). London, Her Majesty's Stationery Office.